



BDUK Urban Broadband Fund

Urban Broadband Fund Supplier Consultation

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**Broadband
Delivery UK**

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1 Introduction

1.1 Purpose of this document

1.1.1 In the 2011 Autumn Statement the Chancellor set out details of a new £100 million Urban Broadband Fund (“UBF”) to create up to ten super-connected cities across the UK with ultrafast broadband¹ (“Ultrafast”) connectivity. In the 2012 Budget, the Chancellor also announced a further £50 million to enable at least ten ‘smaller cities’ to become super-connected.

1.1.2 Our objective of creating super-connected cities comprises two distinct elements:

- The first element of the programme is designed to ensure that Ultrafast capabilities are put in place where there is an economic case for doing so. In some instances this will require a ‘nudge’ from the public sector with a connection voucher, in other instances it will require State sponsored NGA infrastructure to be built. Where the economic case for Ultrafast connectivity isn’t evident and there is similarly no private sector case for superfast deployment we intend to ensure that superfast broadband is provided, as a minimum, to all residential and SMEs in the qualifying city areas. This is to ensure continuity in service provision across all white NGA areas. In order to establish the most appropriate public response to NGA provision it is crucial that each city maps its economic requirements thoroughly. By doing so, it will be possible to obtain the best value for money and to use public funds to motivate the use of next generation connectivity in the most efficient and effective way.²
- The second element of the programme aims to deliver improved connectivity in city authorities through use of radio concessions for city authority assets (eg lampposts).

1.1.3 This consultation document focuses on the first element of the programme. It provides the context for the principles, models and options being considered within the Urban Broadband Fund as it relates to NGA based capabilities. Both the use of vouchers and radio concession models are a high priority for delivery of the programmes overall objectives, but are not considered in detail in this consultation.

1.1.4 This consultation expands three areas where the Department for Culture, Media and Sports (“DCMS”) is assessing options and are seeking feedback from suppliers impacted by these interventions. The areas detailed in this document are the:

- Commercial delivery models that suppliers may operate in providing infrastructure and services and the extent to which they design, build, operate and finance network infrastructure and provide services using this infrastructure;

¹ In paragraph 82 of the “EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks - (2013/C 25/01)” Ultrafast is referred to as “... NGA networks able to provide ultra-fast speeds well above 100 Mbps.”

² This assessment will also be used to inform our assessment concerning the need for any further intervention(s). For example, should SMEs be found to need business connectivity services and would use these if it was not for the connection charges there may clearly be a case for using vouchers to ‘nudge’ that connectivity provision.

- Funding options the public sector may consider to facilitate the deployment such as gap funding infrastructure, or potentially where the public sector take on more risk and reward for funding such as in a joint venture; and
- Procurement options to select suitable providers.

1.2 What will happen to the results

1.2.1 The results of this consultation and wider engagement will inform DCMS and cities on:

- Options recommended and used by cities within their implementation planning and projects;
- Discussions with the European Commission on the development and acceptance of an Urban State aid umbrella notification; and
- Development of DCMS supporting activities and arrangements for UBF schemes.

1.2.2 DCMS will provide feedback to suppliers on the key findings of the consultation.

1.3 Responding to this consultation

1.3.1 Instructions on how to respond to the consultation are provided below and a separate questionnaire response form is provided for replies. DCMS request that responses to the consultation are provided by Friday 15 March 2013 to “urbanbroadbandfund@culture.gsi.gov.uk”. Suppliers:

- Should notify DCMS of your intent to respond to the consultation by emailing <mailto:urbanbroadbandfund@culture.gsi.gov.uk>;
- Must complete the attached questionnaire by Friday 15 March 2013;
- May ask any questions relating to this document or the consultation by emailing <mailto:urbanbroadbandfund@culture.gsi.gov.uk>; and
- May attend supplier day in March (date to be confirmed).

1.4 Confidentiality

1.4.1 DCMS will treat responses as commercial-in-confidence and will not share any information that can be associated with your organisation outside of DCMS without your organisation’s express agreement except where such disclosure is required by law. Notwithstanding the foregoing DCMS may disclose any such information with its professional advisors (including consultants) in connection with the UBF programme on the basis it is treated as commercial-in-confidence.

1.4.2 DCMS may anonymise your response to inform discussion with the European Commission, for example information about the number of suppliers that favour a particular commercial model.

1.5 Freedom of Information

1.5.1 All information in responses, including personal information, may be subject to publication or disclosure under Freedom of Information legislation. If a

correspondent requests confidentiality, this cannot be guaranteed and will only be possible if considered appropriate under the legislation. Any such request should explain why confidentiality is necessary. Any automatic confidentiality disclaimer generated by your IT system will not be considered as such a request unless you specifically include a request, with an explanation, in the main text of your response. This consultation is being carried out in accordance with the Cabinet Office Code of Practice on Consultation. The criteria are listed on the Department's and the Commission's websites, together with details of who to contact with any comments on the consultation procedure or complaints about the way it is being conducted.

2 Urban Broadband Fund context and objectives

2.1 Background

- 2.1.1 Stimulating investment in the UK's broadband infrastructure is a Government priority. In December 2010, the Secretary of State for Culture, Media and Sport and the Minister for Culture, Communications and Creative Industries jointly launched the Government's National Broadband Strategy: 'Britain's Superfast Broadband Future'. The strategy sets out the Government's vision for broadband in the UK, which is to ensure the UK has the best Superfast broadband network in Europe by 2015.
- 2.1.2 The Chancellor has announced investment of £150m across 22 cities which collectively make up the Urban Broadband Fund programme. These cities are now in a state of preparation, or in some cases are advancing through procurement of certain aspects of their schemes (for instance Leeds / Bradford who have procured a "wireless concessions" scheme). Government wishes to put in place the necessary mechanisms to support cities in establishing all City projects with a view to implementing schemes, and delivering outcomes, by April 2015.
- 2.1.3 The common theme across cities is, in line with the Government objectives, a desire to increase service take-up from residential and business customers – with a particular focus on Small and Medium Sized Enterprises ("SMEs") and strategic employment zones as a means to support economic growth. In investing in cities the Government is looking to the private sector to provide wider investment including accelerating the adoption of Ultrafast connectivity.
- 2.1.4 The European Commission has indicated that they wish the UK to pursue an urban State aid umbrella scheme. State aid control is needed to ensure that government interventions do not distort competition and trade. A key submission document required by the European Commission to allow approval of the scheme is the State aid umbrella notification, which is currently being developed by DCMS and is set to be submitted to the European Commission in Spring 2013.

2.2 Why intervention is needed

- 2.2.1 Broadband infrastructure investment is vital in supporting the overall growth agenda. The Government is committed to ensuring the rapid roll out of Superfast broadband across the UK and is investing in Superfast broadband, bringing forward network infrastructure upgrades and improving the accessibility of services in locations where it would not otherwise happen because of the weak commercial investment case.
- 2.2.2 City authorities across the UK have identified pockets of market failure in the availability of Ultrafast NGA and broadband services as part of a larger drive to enable businesses and private citizens to use connectivity to increase productivity. This drive may include provision of demand stimulation³ activity to accelerate and increase outcomes. They have also identified areas of inequity of provision across

³ Demand stimulation provides businesses with practical support and assistance and access to knowledge in understanding how connected services and faster broadband could help their business to for instance grow or become more profitable

cities which will be reduced, in many instances removed, as a result of interventions. Cities are therefore seeking to drive growth and improve equity of provision by increasing the level of broadband connectivity for their businesses and residents.

2.2.3 The UBF funding initiative comprises a number of elements that are focused on maximising the availability of NGA and broadband connectivity and the deployment of city-wide high-speed wireless connectivity to address these market failures.

2.2.4 Interventions that are designed to deliver the UBF programme comprise both demand side (eg demand stimulation) and supply side (eg network infrastructure build) interventions. The emphasis of these interventions may differ by city depending on the precise nature of the identified market and/or equity failures identified.

2.3 Objectives

2.3.1 The UBF programme aims to invest in broadband infrastructure against shared, common objectives across cities. This investment will:

- Deliver part of the UK's commitment to the EU2020 Digital Agenda⁴. The EU2020 target is internet speeds of 30 Mbps or above for all European citizens (Superfast), with half European households subscribing to connections of 100Mbps or higher (Ultrafast);
- Drive economic growth by enabling businesses to compete in wider national and global markets, using Ultrafast technology. In particular they will be better able to compete in the creative and data rich industries (e.g. film, video games, music, advanced manufacturing) on a par with their international competitors;
- Facilitate enhanced workplace skills and flexibility of employment by increasing the adoption by consumers of Ultrafast connectivity;
- Enable increased individual mobility in cities, with the development of contiguous wireless enabled city centres;
- Support the public sector Digital by Default⁵ agenda;
- Further develop competitive markets in network and broadband provision, with the aim of ensuring that sustainable, innovative products are created to utilise new broadband infrastructure; and
- Support increasing numbers of people to work from home, providing environmental benefits and improving the national carbon footprint through reduced travel.

2.3.2 Objectives for individual cities will be different as each city has differing priorities, demographics and focus. Some cities may focus strongly on the needs of existing businesses who have a limited ability to connect, others may want to encourage

⁴ "Digital Agenda for Europe" homepage: <http://ec.europa.eu/digital-agenda/>

⁵ "Government Digital Service" webpage: <http://digital.cabinetoffice.gov.uk/about/>

new business opportunities and others may focus on leveling the equity of connection for residents and business overall.

2.4 Profile of the Urban Broadband Fund cities

2.4.1 The Urban Broadband Fund is structured across two waves of cities. Wave 1 addresses plans in capital and some core cities. Wave 2 addresses plans in smaller cities. Each city has submitted a Super Connected Cities Plan. Some of these plans have been published and set out how cities plan to drive growth through increased broadband connectivity to business and residential premises.

2.4.2 In total the Chancellor has set out details of £150m forming the Urban Broadband Fund. This has been allocated to cities through two open competitions. The first of these was for capital and core cities and a second, later competition was run for smaller cities. In total 22 cities are now actively engaged in the UBF programme. At the date of publication, only the capital and core cities have had funding announced. Figures 2.1 and 2.2 list the cities in the UBF programme.

Initially awarded cities	BDUK Max funding award offered
Belfast	£13.7m
Birmingham	£10.0m
Bristol	£11.3m
Cardiff	£11.0m
Edinburgh	£10.7m
Leeds – Bradford	£14.4m
London	£25.0m
Manchester	£12.0m
Newcastle	£5.7m

Figure 2.1 Capital and core cities awarded within the initial £100m funding UBF competition

Other cities	Other cities
Aberdeen	Cambridge
Derby	Newport
Perth	Salford
Brighton & Hove	Coventry
Derry/Londonderry	Oxford
Portsmouth	York

Figure 2.2 Smaller cities awarded within the second £50m funding UBF competition

2.4.3 DCMS will provide funding to cities and is supporting the programme in establishing dialogue with the European Commission and bringing practical technical and commercial knowledge of broadband infrastructure programmes. DCMS will continue to support the cities with guidance throughout the procurement stages and early implementation of city projects.

2.4.4 The plans proposed by cities contain a broad range of both wired, wireless/radio and voucher initiatives. This consultation document focuses primarily on plans to fund NGA (superfast/ultrafast) broadband connectivity.

2.5 Other proposed approaches

- 2.5.1 The UBF programme is also working as a high priority with cities in two other significant approaches to delivering the wider programme objectives. These are radio concessions for City authority assets and the use of vouchers to support business in accessing Ultrafast connectivity. The approaches are summarised below:

Connection Vouchers

- 2.5.2 Connection Vouchers (“Vouchers”) are a demand-side measure comprising payment of a public subsidy to an SME or consumer to wholly or partially fund the installation charges for new broadband connections. It is likely that Vouchers will feature across a significant number of city projects.
- 2.5.3 DCMS is working closely with cities to plan and deliver a structured programme of demand surveying, stimulation and training in advance of and to complement the voucher scheme. This is required in order to establish precise demand requirements and to ensure that end-users are best able to exploit the benefits of new connections.
- 2.5.4 While Vouchers may be available on an equal basis for both business and residential customers, it is likely that that greater economic growth (a particular focus of government policy) will be delivered by business take-up. It is therefore anticipated that City-led demand stimulation and marketing activity will target businesses (eg SMEs) and will actively include SME representative bodies.
- 2.5.5 Section 7 describes the commercial approach to connection vouchers in more detail.

Radio access initiatives

- 2.5.6 Contracts will be let by city councils on a service concession basis to facilitate the expansion of faster radio coverage by ‘leasing’ space on City authority assets for communications providers to deploy active radio equipment. The concession contract does not typically feature public-funding, but provides the potential concession holders with access to council-owned assets such as street furniture, lamp-posts, CCTV sites and bus shelters upon which active radio equipment can be mounted. It is likely that radio concessions will be created in a significant proportion of city projects.
- 2.5.7 UBF funding has been awarded to some cities to enable them to upgrade assets to a quality which will allow a concession holder to install and connect active radio equipment. Council infrastructure upgrades are limited to the passive infrastructure only (eg power supply, communications backhaul infrastructure). Cities will compete the concession contracts to select wholesale operators.

3 Programme and commercial principles

3.1 Programme and commercial principles context

3.1.1 The Urban programme is seeking to create a consistent view of the principles that will underpin the approaches to roll out NGA and broadband access infrastructure more widely in urban areas. For ease of reference in response to the consultation, these principles have been labeled as set out below. We seek supplier's views on how these principles may impact on the delivery of the Urban programme. This section summarises:

- Principles that will be followed by the programme in working with cities;
- Commercial principles that will be communicated to cities and used as a basis for establishing arrangements;
- A dialogue on the expected risks that will transfer between cities (as the contracting authorities) and suppliers; and
- The current significant State aid principles that are being discussed with the European Commission.

3.2 Programme management principles

3.2.1 DCMS will support cities with a central team based in Broadband Delivery UK (BDUK). However the critical role of delivering the project will remain with the city authorities. The principles that DCMS will use to support in facilitating City delivery are as follows:

- Principle 1: Cities will lead on the delivery of projects and own the City outcomes;
- Principle 2: Encourage an approach to City delivery that mitigates the risk of failure of projects;
- Principle 3: Encourage and support the collaboration and sharing between cities;
- Principle 4: Encourage cities to promote the involvement of City communities and businesses to optimise demand for connectivity; and
- Principle 5: Promote and assure the efficient use of public funds with City projects.

3.3 Key commercial principles

3.3.1 The following principles have been established to support a commercial approach to the way in which DCMS and City authorities invest public funds through the Urban programme.

3.3.2 DCMS will maintain an effective commercial approach which:

- Principle 6: Supports the development of City solutions but guide and assist City initiatives as appropriate (eg remaining within State aid rules);
- Principle 7: Helps cities to maximise competition where appropriate;

- Principle 8: Helps cities to minimise aggregate transaction and delivery costs for the public and private sectors (eg through collaboration and shared approaches);
- Principle 9: Invests in achieving appropriate and affordable outcomes for business and residential customers;
- Principle 10: Maintains compliance with all regulations (including for example State aid regulations as appropriate and appropriate treatment of access to public funded or part-funded assets) and minimises the risk of distortion in markets (eg adjacent markets);
- Principle 11: Develops long term, financially sustainable solutions which use public funds to invest in capital expenditure only; and
- Principle 12: Addresses the need for economic, efficient and effective solutions where possible to achieve sustainable value for money.

3.3.3 A primary objective of DCMS is to invest in economic infrastructure and maximise the use of this infrastructure to maximise economic growth opportunities. The following principles will be used by DCMS to underpin this overall objective:

- Principle 13: Maximise the impact from the available investment in BDUK and City project funding;
- Principle 14: Explore incentives for private sector investment and competition in broadband and wireless/radio infrastructure;
- Principle 15: Increase the deployment of Ultrafast NGA and broadband and the equity of access within urban areas where economic to do so;
- Principle 16: Enable existing, market-driven, technology agnostic solutions (incl. approaches and processes) as far as possible; and
- Principle 17: Enable outcomes which address the risks across the supply chain of ensuring sufficient demand and take-up of services.

3.4 Principles of risk transfer:

3.4.1 City authorities will wish to understand and balance the commercial risks they accept and transfer where they can demonstrate:

- That the risks they maintain are ones which they are best placed to influence, act to mitigate or accept;
- Where the authority shares or owns some all of the commercial risk that there is a demonstrable and evidenced case; and
- Where the authority can benefit from accepting the risk that there is a defined period of time over which this will be accepted.

Figure 2.3 sets out some of the significant risks which are expected to be owned by both the City authorities and suppliers for NGA models (depending on the actual commercial and funding model chosen).

Commercial risks	
City authority	Supplier
<ul style="list-style-type: none"> Identifying and securing sufficient public funding and managing this funding to enable the desired outcomes to be achieved 	<ul style="list-style-type: none"> Defining solutions and selecting technology which meets requirements
<ul style="list-style-type: none"> Designing and running a project and procurement approach that attracts competition and innovation from suppliers 	<ul style="list-style-type: none"> Ensuring the quality of the deployed network and associative active infrastructure where relevant
<ul style="list-style-type: none"> Political consequences for the City authority and its elected members of outcomes not being achieved 	<ul style="list-style-type: none"> Establishing the supply chain and relevant inputs required to provide the functions of designing, building, operating and retailing the assets to the extent they are relevant to the model deployed
<ul style="list-style-type: none"> Practical consequences of outcomes not being achieved such as failure of the desired business case, and responding to residents' concerns 	<ul style="list-style-type: none"> Planning and implementation risks
<ul style="list-style-type: none"> Where retaining ownership of the asset, the delivery of services to retailers and other customers of the infrastructure 	<ul style="list-style-type: none"> Cost outturn risks
<ul style="list-style-type: none"> Take up risk if retaining ownership of the assets 	<ul style="list-style-type: none"> Delivery of the service to retailers and other customers of the infrastructure
	<ul style="list-style-type: none"> Take up risk if retaining ownership of the assets

Figure 2.3 Summary of risks for City authorities and suppliers for NGA models

3.5 State aid principles

3.5.1 DCMS is exploring an umbrella State aid approval from the European Commission for funding for agreed white NGA interventions. The key elements to the notification are our commitment to:

- Ensure a minimum of Superfast NGA capabilities to residential and business (SME) consumers in white NGA intervention areas and to provide Ultrafast capabilities in those areas where there is an economic case for doing so;
- Use State aid only to target the identified failure in NGA provision and so limit the risk of crowding out private investments, altering commercial investment or distorting competition in the provision of other services (eg business connectivity services);
- Utilise complementary demand and supply side measures (eg demand side stimulation and efficient infrastructure investment);

- Deliver projects' objectives in a technologically neutral way;
- Ensure transparent and highly targeted mapping of identified intervention areas;
- Re-use of existing infrastructure where possible to avoid the wasteful duplication of resources;
- Require suppliers to meet a set of targeted, effective and appropriate wholesale network access conditions that serve to promote competition in the supply of NGA based broadband services in accordance with the requirements for NGA white area interventions;
- Ensure that there is competitive selection process for the specified services;
- Achieve value for money by ensuring that State aid is limited to the minimum amount possible to achieve projects' objectives; and
- Rely on the UK's national regulatory authority (Ofcom) to advise DCMS on the appropriate wholesale access pricing necessary to achieve its NGA intervention objective.

3.5.2 A current State aid scheme for the 'final third' Superfast programme is in place but the European Commission have requested that the UK submits a new umbrella notification for proposed white area NGA interventions for the identified cities. This new umbrella notification must be compliant with the requirements of the European Commission's new broadband guidelines⁶

The white NGA intervention area – detailed mapping and analysis of coverage

3.5.3 Understanding the scope of potential intervention will be of crucial importance and key to this is the public consultation that must take place on the suitability and accuracy of the identified intervention area (which scopes the specific postcode / premises to which the scheme is limited). To ensure transparency, the public consultation will be preceded by an Open Market Review (OMR). The OMR, is used as a tool that facilitates early market engagement with existing infrastructure providers and informs the mapping of existing and planned (in the next three years⁷) NGA deployments. Each city then presents the proposed white area NGA intervention area in the public consultation, which in turn is used to inform the finalisation of the white NGA intervention area. Intervention areas are mapped as: white (no existing NGA networks in the area or planned in the next three years), grey (one NGA network in the area) or black (two or more NGA networks in the area).

Wholesale network access conditions

3.5.4 The European Commission have set out certain wholesale network access conditions that it requires a supplier to meet for a period of seven years when that supplier is

⁶ These guidelines were published in December 2012 and are available at the following URL <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:025:0001:0026:EN:PDF>

⁷ The three year period would start from the moment of publication of the planned aid measure.

in receipt of State aid. These access conditions are designed to ensure that there is an effective means by which other communications providers can use the supplier's infrastructure in the intervention area to compete for the provision of retail services, thereby increasing choice.

3.5.5 The State aid conditions that will apply to undertakings in receipt of public funds are independent of any regulatory obligations that may apply and are therefore not limited to any undertaking that holds a position of significant market power ("SMP"). These network access conditions applicable to identified intervention areas have implications for suppliers intending to use their existing infrastructure (or extend it) as a method of meeting the objectives of the scheme. It is also important that suppliers not intending to bid for funds but have existing infrastructure in the intervention area or wish to offer services in the intervention area understand what these conditions mean for them. In outline, in a white NGA area the supplier in receipt of State aid must:

- Offer wholesale network access under fair and non-discriminatory conditions to all third parties that request it;
- Provide third parties with the possibility of effective and full unbundling by ensuring that:
 - there is a clear route for third parties to request new forms of network access⁸; and
 - requests for new forms of network access are met where they further (or at the very least maintain) the competitive dynamic in the downstream market(s);
- Provide wholesale network access at the passive layer (i.e. the right to use ducts and pole, dark fibre or street cabinets) and active layers (i.e. offer a wholesale bitstream product); and
- Meet the general network access conditions and provide a wholesale bitstream product for a minimum of seven years. The supplier must not place any time restriction on the right of access to ducts and poles;
- Adhere to network access pricing rules that Ofcom specifies for the purpose of ensuring that State aid is effectively targeted at supporting the deployment of Superfast or Ultrafast capabilities in the identified white NGA intervention;
- Ensure that prices charged for use of the State aid funded networks are neither predatory or excessive against similar benchmarks in non State aid funded areas and adhere to mechanisms used to ensure that this is the case; and
- Agree to specific project monitoring requirements and the implementation of a mechanism that enables the clawback of any excess profits made from State aid (ie through less cost being required to deploy new infrastructure, or through higher than expected revenues) where individual projects receive more than EUR 10 million.

⁸ New forms of wholesale network access include requests for modifications to existing network access and requests for completely new forms of network access

4 Commercial delivery options

4.1 Commercial delivery options

4.1.1 This section describes three alternative commercial delivery options for NGA broadband that could be funded by the Urban Broadband Fund that different types of private sector supplier (“Supplier”) may be interested in. Other options may exist, however these span a broad range of options. City authorities are likely to pursue one option only based on a balance of achieving their requirements and improving competition. BDUK are seeking feedback from suppliers on the commercial attractiveness and the risks of the different approaches.

4.2 Commercial model 1: Public Sector operator of passive asset, supported by private sector operator

4.2.1 A Supplier is commissioned to design and build infrastructure to be used for the purpose of broadband, but the Supplier does not retain ownership of the asset instead ‘handing it back’ to the City authority. The City authority (or its agent) sells access to communications providers on an open access basis. The agent of the City authority may act as a managed service provider to the authority in maintaining the infrastructure and facilitating access. A number of different variations are possible in the scope of which a City authority might wish to deploy this model, these are illustrated in figures 4.1a and 4.1b.

4.2.2 The scope of the procurement would focus on designing and building passive infrastructure such as new ducting or poles and dark fibre. Under this model the ownership of the infrastructure would remain with the City authority who would accept ownership from the supplier, and therefore pay, based on successful quality testing and in accordance with an agreed profile of milestones. Following the completion of the infrastructure being built the City authority would be accountable for exploiting the infrastructure to achieve a commercially viable payback.

4.2.3 An organisation typically envisaged in this model would be focused on building network infrastructure, but may not be interested in adopting a long term ownership of the risk, and potential reward, of exploiting the broadband network infrastructure. A City authority would procure a standard infrastructure programme, most likely from a single supplier and would adopt an approach to procurement that seeks the most competitive supplier based on the cost and the quality of the build proposed.

4.2.4 Whilst certain incentives may be on offer, the City authority is unlikely to enter into a complex commercial or procurement arrangement to achieve its goal of developing infrastructure. Supplier revenues and profitability of the arrangement would be gained through payment from the City authority for solutions integration and civil engineering. The City authority may choose to purchase a form of managed service to support them in administering processes for access to the passive network infrastructure. It is also possible the same PS or a different one may support active services access across the same network infrastructure. (see figure 4.1)

4.2.5 The envisaged key risks transferred to the Supplier are ensuring that:

- Build quality of the network meets requirements such that the City authority will agree payment; and
- Costs and delivery timescales do not escalate.

4.2.6 The key opportunity envisaged for the Supplier are that it:

- Lessens the significant risks incurred compared to retaining ownership of the infrastructure and maintaining a sustainable commercial case by exploiting the infrastructure and generating revenues.

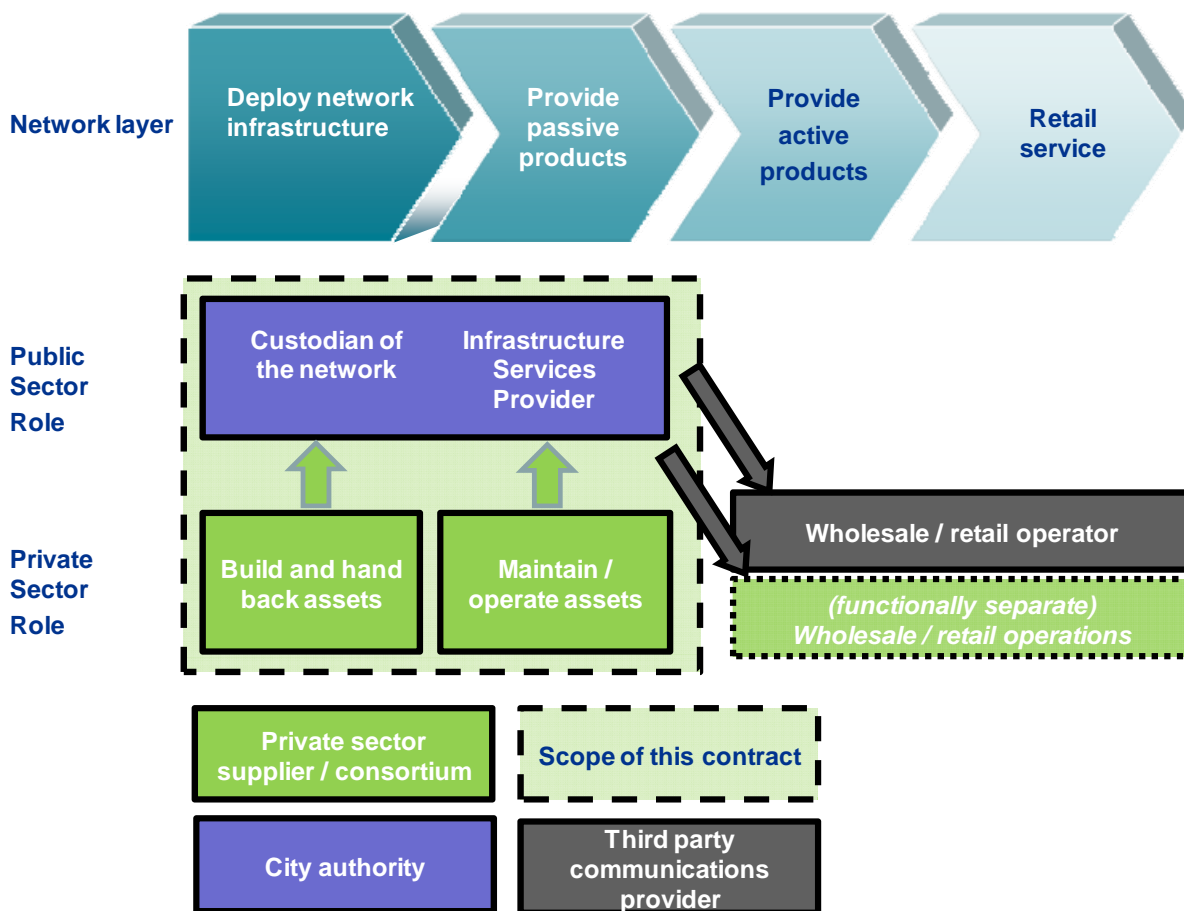


Figure 3.1a Diagram depicting commercial model 1, Public Sector operator of passive asset, supported by private sector operator

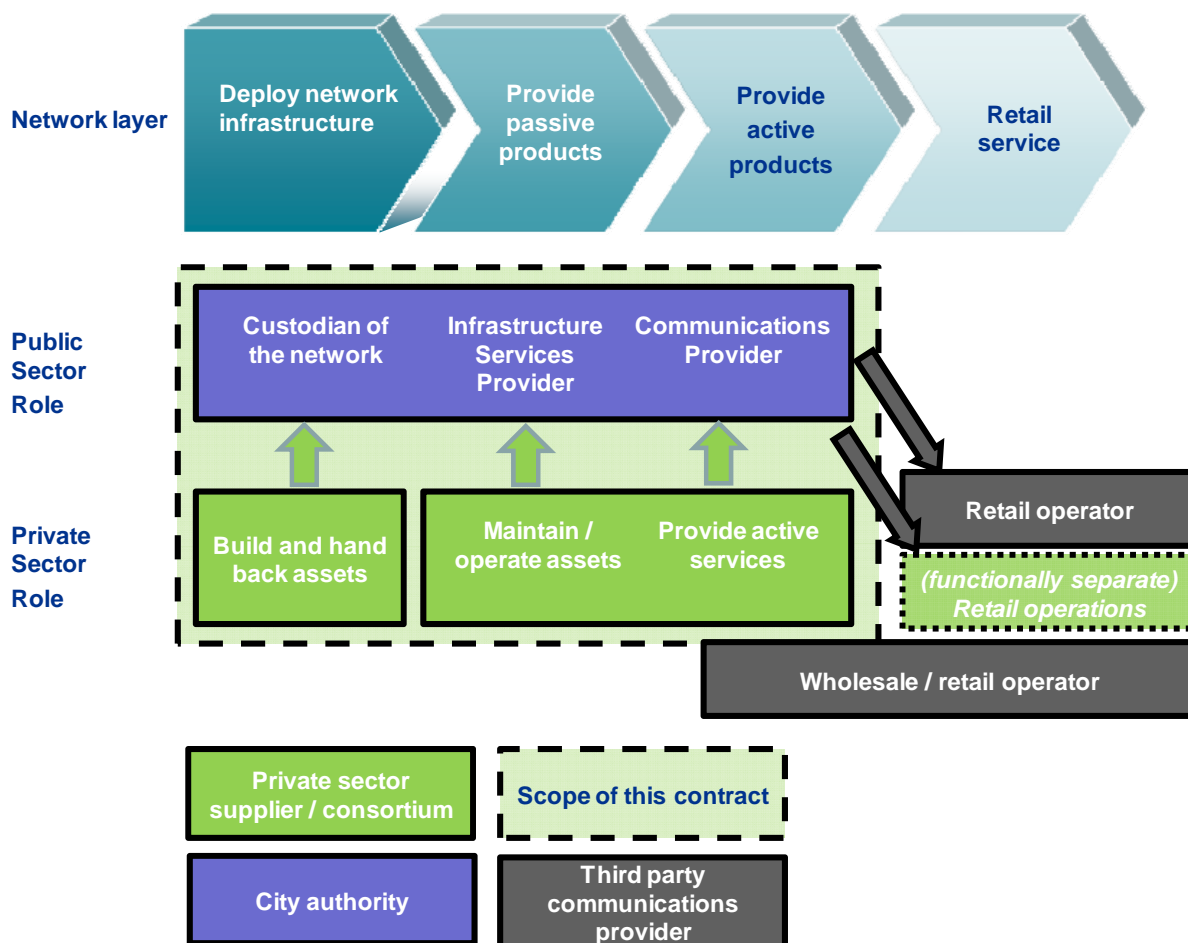


Figure 4.1b Diagram depicting commercial model 1, Public Sector operator of passive asset, supported by private sector operator

4.3 Commercial model 2: Deploy and operate passive infrastructure

- 4.3.1 A Supplier designs, builds and operates (for instance maintaining the network and managing network access) passive infrastructure (e.g. ducts, dark fibre and poles/masts) and sells access to communications providers on an open access basis. This is illustrated in figure 4.2.
- 4.3.2 The scope of the procurement would focus on the design and build of passive infrastructure. Under this model the ownership of the infrastructure would remain with the Supplier. Following the completion of the infrastructure build the Supplier would retain accountability for exploiting the infrastructure by attracting sufficient wholesale business to balance cost and develop a commercially viable business model.
- 4.3.3 An organisation typically envisaged in this model would have an interest in ownership and operation of assets along with access to passive products, but not necessarily in providing active services over those assets. They would have a business model whereby they could profit from the intensive exploitation of broadband infrastructure. Payments would be received as part-funding for capital

- expenditure from City authorities (for passive infrastructure), and revenue income from customers of the infrastructure.
- 4.3.4 The infrastructure assets would be provided on an open access basis. This obligation for open access for suppliers on an equivalent basis is likely to be greater than existing regulatory approaches (ie the current regulatory requirements around Passive Infrastructure Access). Obligations would likely extend to any existing assets of the Supplier, which would need to be provided under the same level of access as any new infrastructure.
- 4.3.5 Discussion is on-going with the European Commission on the type of access that will be required within an Urban State aid scheme. Access conditions and restrictions may range from:
- Requiring the supplier to have functional separation of its wholesale and retail divisions in order for it to offer downstream services to residential and business customers; to
 - Requiring the operator to make the infrastructure available for any purpose (eg Mobile mast infrastructure backhaul, leased lines) in order to maximise the 'openness' of the subsidised infrastructure.
- 4.3.6 Views from stakeholder are sought on the impact:
- On the business case for bidding to be the Supplier for a project that these different access constraints might have.
 - That these conditions may have on communications providers with existing assets in the relevant white NGA intervention area if (a) open access to successful suppliers' infrastructure is subsidised (ie a third party can use the successful supplier's existing infrastructure at an access price lower than the economic costs of the access provision); and (b) open access is 'conditioned' by the explicit recognition that the primary purpose of the UK's intervention is to support the deployment of NGA infrastructure and to that end the UK is seeking to mitigate any unintended distortions to adjacent markets. Recognising this, we intend to put in place the requirement that access prices for non-NGA services must reflect the full economic cost of access provision and will be designed to avoid inefficient entry into non-NGA markets (eg leased line markets).
- 4.3.7 The City authority would choose one or more capital funding approaches, such as gap funding, where the costs of building the infrastructure are shared with the Supplier in line with State aid requirements. More complex arrangements which share the risk with potential reward may be possible where there is a demonstrable benefit to the City authority. DCMS seeks views on the extent of such benefits. On-going public sector operational (revenue) funding from DCMS or City authorities is not envisaged.
- 4.3.8 Procurement would require additional scrutiny around the viability of the on-going business model over the long term (eg minimum of 10 years) and assurance that there is a considered and robust approach to marketing the infrastructure assets prior to a City authority 'investing' funds. This increases the complexity of the

procurement and therefore raises the potential to adopt a wider range of options described in section 6 Procurement Delivery Options. DCMS, working with City authorities would seek to optimise the time to procure. It is also likely that supplier engagement activity by the City authority would feature ahead of any procurement.

4.3.9 Payment to the supplier could be based on a series of milestones which relate to the design and build of the assets, and that at each stage the completion of the milestones is evidenced at the appropriate level of quality agreed in the contract with the City authority. Other models may be adopted.

4.3.10 The envisaged key risks transferred to the Supplier are that it:

- Builds the infrastructure on time, to budget and to a level that enables the technical specification to be accessed by the Supplier and other wholesale organisations;
- Develops a marketable commercial proposition, in line with State aid requirements and sufficient to demonstrate a sustainable, long term business model. This requires the Supplier to attract a range of wholesale / retail integration organisations to access the network;
- Will meet the ongoing obligations to support State aid requirements over an extended period (eg a minimum period of 10 years);
- Sets in place the supply chain required to exploit the network, ie ensuring the network infrastructure is fit for purpose once operators provide active and retail services over the network; and
- Administers access onto the passive network infrastructure.

4.3.11 The key opportunities envisaged for the Supplier are:

- If the operator can generate greater revenues (eg additional revenues and greater than expected take-up) across the infrastructure than they originally envisage in a sustainable financial model, then subject to State aid rules on the clawback of excess subsidy), they can generate greater profits; and
- The operator would not be required to incur the cost and risk of developing and marketing active services to retail service providers themselves.

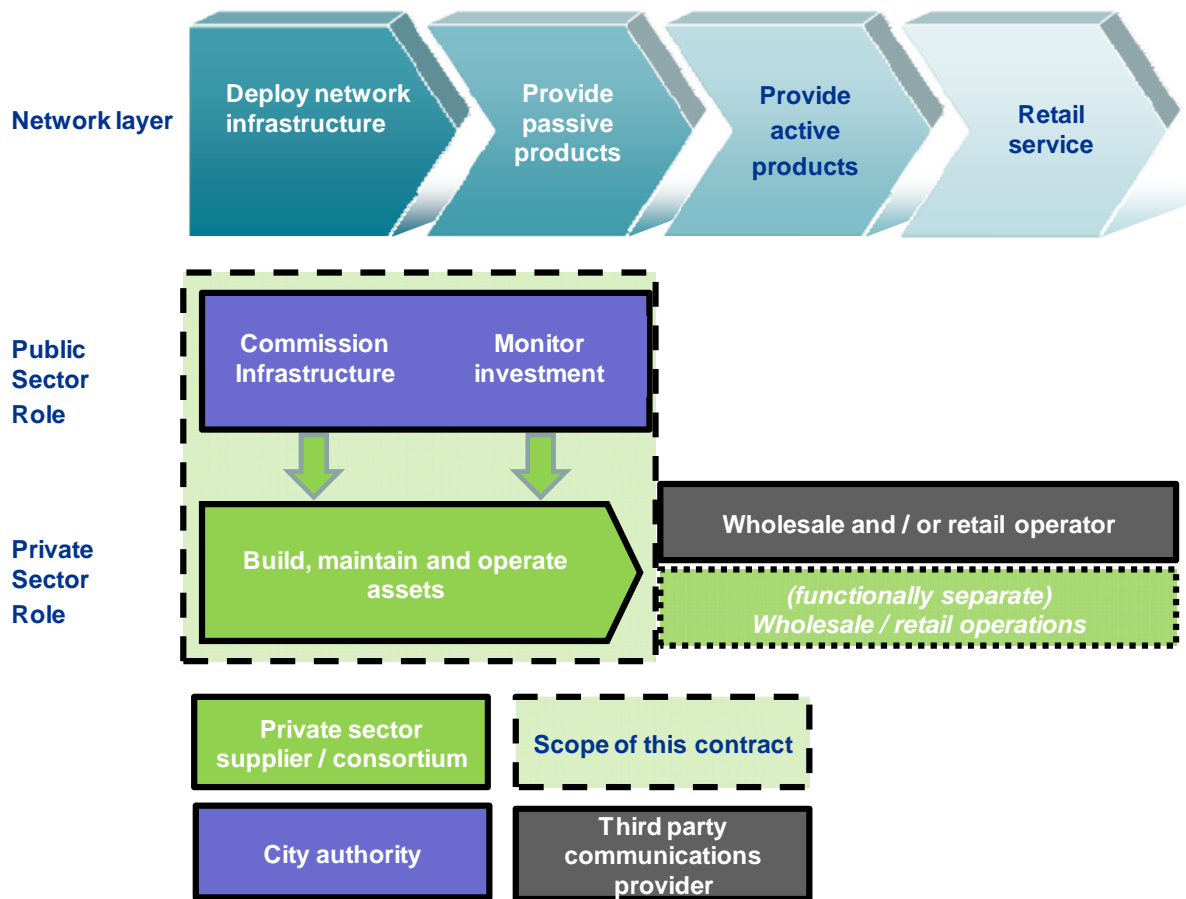


Figure 4.2 Diagram depicting commercial model 2: Deploy and operate passive infrastructure

4.4 Commercial model 3: Deploy and operate passive and active infrastructure

- 4.4.1 A Supplier designs, builds and maintains a passive and active network infrastructure and sells access to communications providers on an open access basis. This is illustrated in figure 4.3.
- 4.4.2 The scope of procurement would focus on the design and build of passive infrastructure. Under this model the ownership of the infrastructure would remain with the Supplier. The Supplier would also develop and use active infrastructure. Following the completion of the infrastructure build the Supplier would retain accountability for exploiting the infrastructure by attracting sufficient wholesale and retail business to balance cost and develop a commercially viable business model.
- 4.4.3 A Supplier typically envisaged in this model would have an interest in ownership and operation of assets and the potential to provide active services over this network. They would have a business model whereby they could profit from the intensive exploitation of broadband infrastructure including the ability to provide white label retail services. Payments would be received as funding from City authorities (for passive infrastructure), and from customers of the infrastructure.

- 4.4.4 The infrastructure assets would be required to be provided on an open access basis. This obligation for open access for suppliers on an equivalent basis is likely to be greater than existing regulatory approaches (ie the current regulatory requirements around Passive Infrastructure Access). The obligations would extend to existing assets of the Supplier, which would need to be provided under the same level of access as any new infrastructure.
- 4.4.5 A further restriction which may apply to the Supplier is the level to which the Supplier can retail its own services on the network. This restriction may be from:
- Un-restricted such that a Supplier can access its own network;
 - A level of legal restriction applied such that an organisation must demonstrate equivalence (similar to that currently operated under UK regulation); and up to
 - Full legal separation of retail and wholesale.

In all the above equivalence of access for ALL operators will be expected. Views are sought on the level of restriction on ability to operate as an access provider that might apply.

- 4.4.6 Discussion is on-going with the European Commission on the type of access that will be required within an Urban State aid scheme. Access conditions and restrictions may range from:
- Requiring the supplier to have functional separation of its wholesale and retail divisions in order for it to offer downstream services to residential and business customers; to
 - Requiring the operator to make the infrastructure available for any purpose (eg Mobile mast infrastructure backhaul, leased lines) in order to maximise the 'openness' of the subsidised infrastructure.
- 4.4.7 Views from stakeholder are sought on the impact:
- On the business case for bidding to be the Supplier for a project that these different access constraints might have.
 - That these conditions may have on communications providers with existing assets in the relevant white NGA intervention area if (a) open access to successful suppliers' infrastructure is subsidised (ie a third party can use the successful supplier's existing infrastructure at an access price lower than the economic costs of the access provision); and (b) open access is 'conditioned' by the explicit recognition that the primary purpose of the UK's intervention is to support the deployment of NGA infrastructure and to that end the UK is seeking to mitigate any unintended distortions to adjacent markets. Recognising this, we intend to put in place the requirement that access prices for non-NGA services must reflect the full economic cost of access provision and will be designed to avoid inefficient entry into non-NGA markets (eg leased line markets).

- 4.4.8 The City authority would choose one or more capital funding approaches (such as gap funding) where the costs of building the passive infrastructure only are shared with the Supplier in line with State aid requirements on which to base the funding dissemination and procurement. More complex arrangements which share the risk with potential reward may be possible where there is a demonstrable benefit to the City authority. DCMS seeks views on the extent of such benefits. On-going public sector operational (revenue) funding is not envisaged.
- 4.4.9 Procurement would require additional scrutiny around the viability of the on-going business model over the long term (eg minimum of 10 years) and the assurance that there is a considered and robust approach to marketing the infrastructure assets prior to a City authority 'investing' funds. Further tests on equivalence and operation of the access network would be required. This increases the complexity of the procurement and therefore raises the potential to adopt a wider range of options described in section 6 Procurement Delivery Options. DCMS, working with City authorities would seek to optimise the time to procure. Supplier engagement activity by the City authority may be a feature ahead of procurements.
- 4.4.10 Payment to the supplier could be based on a series of milestones which relate to the design and build of the assets, and that at each stage the completion of the milestones is evidenced at the appropriate level of quality agreed in contract. Other models may be adopted.
- 4.4.11 The key risks transferred to the Supplier are that it:
- Builds the infrastructure on time, to budget and to a level that provides the technical specification allowing it to be shared with wholesale organisations;
 - Develops a marketable commercial proposition, in line with State aid requirements and sufficient to demonstrate a sustainable, long term business model. This requiring the Supplier to attract a range of wholesale / retail organisations to access the network;
 - Structures its business model to respond to the need to deliver equivalence; and
 - Ensures ongoing obligations will be apparent in any contract to support State aid needs over an extended period (eg minimum of 10 years);
 - Sets in place the supply chain required to exploit the network, ie ensuring the network infrastructure is fit for purpose once operators provide active and retail services over the network; and
 - Administers access onto the network infrastructure.
- 4.4.12 The key opportunities that exist for the Supplier are:
- If the operator can generate greater revenues across the infrastructure than they originally envisage in a sustainable financial model, then subject to State aid rules on the clawback of excess subsidy), they can generate greater profits; and
 - Direct access to the network infrastructure for the sale of retail services, subject to the potential restrictions discussed above.

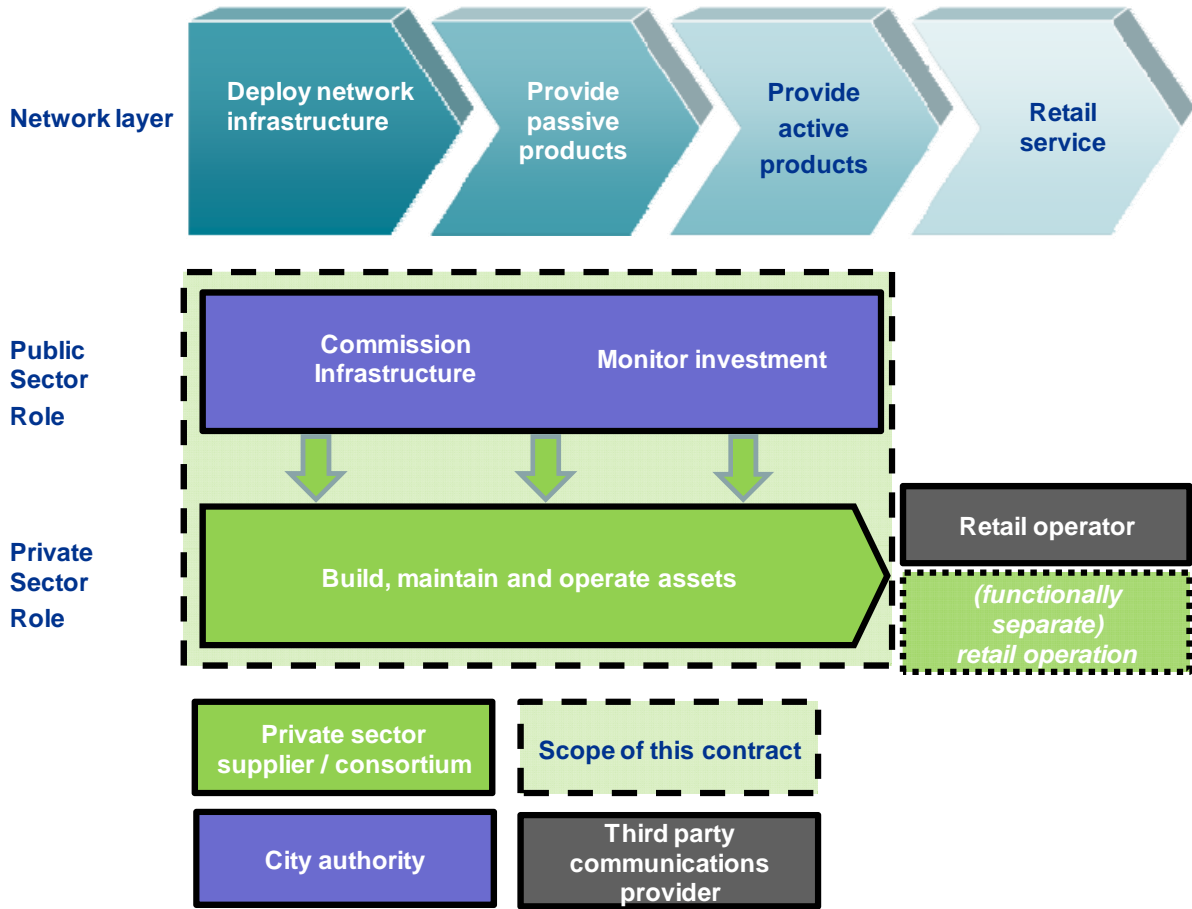


Figure 4.3 Diagram depicting commercial model 3: Deploy and operate passive and active infrastructure

5 Funding Options

- 5.1.1 Against each of the commercial approaches described in section 4 there are various funding options that may be appropriate and could be adopted by different City authorities. These could be used independently of each other, in combination or other options may be adopted. The following describe typical models and DCMS are seeking views from suppliers on the potential implications and benefits of different approaches and other approaches that may exist.
- 5.1.2 The more complex funding options are often more relevant to commercial models 2 and 3 presented in section 4. In these commercial models greater risk is accepted by suppliers, and therefore this provides more opportunity for the City authorities to consider variant funding options which provide a different balance of risk and reward.

5.2 Funding option 1: Gap funding

- 5.2.1 City authority awards direct monetary grants to broadband investors to deliver one of the commercial options described. The supplier calculates the difference between the Supplier's standard, commercial model and the cost of providing the network infrastructure to deliver the scope set out by the City authority taking into account costs, risks, revenues and reasonable margins. The difference is the "gap" required to be funded by the public sector.
- 5.2.2 The cost to the public sector of the gap fund, when taken in consideration along with other quality and financial factors, would form part of the competition against other Suppliers subject to a capped limit on public sector funding.
- 5.2.3 The ratio of public funding to commercial sector funding would likely not be mandated.
- 5.2.4 Gap funding typically places the risk of cost overruns more on the supplier than the public sector, but can provide autonomy to the supplier to exploit the network independent of City authority funding.

5.3 Funding option 2: Joint Venture (via Special Purpose Vehicle)

- 5.3.1 The Supplier and the City authority combine their capital investment in accordance with an established set of principles including such matters as the ratio to which rewards and risks are shared. The costs of deploying the network infrastructure, associated systems and processes and the ongoing administration of the Joint Venture are shared.
- 5.3.2 A sustainable financial case would need to underpin the Joint Venture, and this would typically be competed through a procurement to establish the most efficient and economic Supplier to 'partner' with the City authority.
- 5.3.3 The exact form that the Joint Venture takes can differ considerably (eg Limited company, mutual), and would need to take account of wider financial efficiency and governance issues such as tax considerations and the level to which owning organisations hold shares and voting rights.

5.4 Funding option 3: Public sector guarantee of demand

- 5.4.1 City authority and Supplier 'invest' in a funding vehicle, receiving shares in proportion to their relative up-front investment. The funding and investment is bound by terms which set out the extent of the guarantee such as time and scale, and the implications for either party.
- 5.4.2 An illustrated example, of which others may exist is set out here. As the parties attract customers to the network the Supplier may be obliged to purchase shares from the City authority via the funding mechanism. The intention of purchasing shares would be to limit the risk over time of the Supplier attracting customers onto the network, thereby increasing the sustainability of the commercial arrangement.

5.5 Funding option 4: Fully state owned broadband network

- 5.5.1 The City authority provides the full funding for the network infrastructure, paying the Supplier through a standard contractual payment mechanism for the incurred costs of design, development and deployment of the infrastructure and any associated systems.

5.6 Funding option 5: Other

- 5.6.1 Other, varied funding models exist for instance the ability to provide certain, more guaranteed revenue streams of funding through anchor tenants, different ownership structures for assets, different levels of transferred risks. Such models would need to satisfy the public sectors risk appetite in accepting alternatives, and other State aid and regulatory requirements. Views are sought on alternative models.

6 Procurement delivery options

- 6.1.1 This section describes typical procurement options which may apply to procurements for network infrastructure builds for Ultrafast technologies part-funded by the UBF. For each procurement option a competition will be required. This competition will vary depending on the scale and complexity of the city project and the complexity of the commercial model. Therefore procurement options may differ per city project. DCMS seeks views from suppliers on the options presented below.
- 6.1.2 Some City authorities have already progressed procurements, the information gained from the cities who have run procurements will be used to refine the approaches that others use (eg use of common documents, lessons learned to improve efficiency).
- 6.1.3 Please note that the procurement approaches discussed below relate to NGA infrastructure procured outside of a Vouchers “scheme”. With vouchers the mechanism for purchase rests with the consumer or end user of services – this is discussed in section 7.

6.2 Delivery Approach

- 6.2.1 The procurement option has not currently been decided by DCMS/City authorities. The options summarised below fall into four broad categories:
- Option 1: Localised, individual city procurement;
 - Option 2: Localised, individual city procurements, coordinated by DCMS;
 - Option 3: DCMS coordinated procurement; and
 - Option 4: City led, collaborative procurements.

In each of the options a competitive, OJEU based procurement process would be operated. Depending on complexity and other factors this is typically likely to be an Open, Restricted or a Competitive Dialogue process. An illustrative process for procurement is included in figure 6.1.

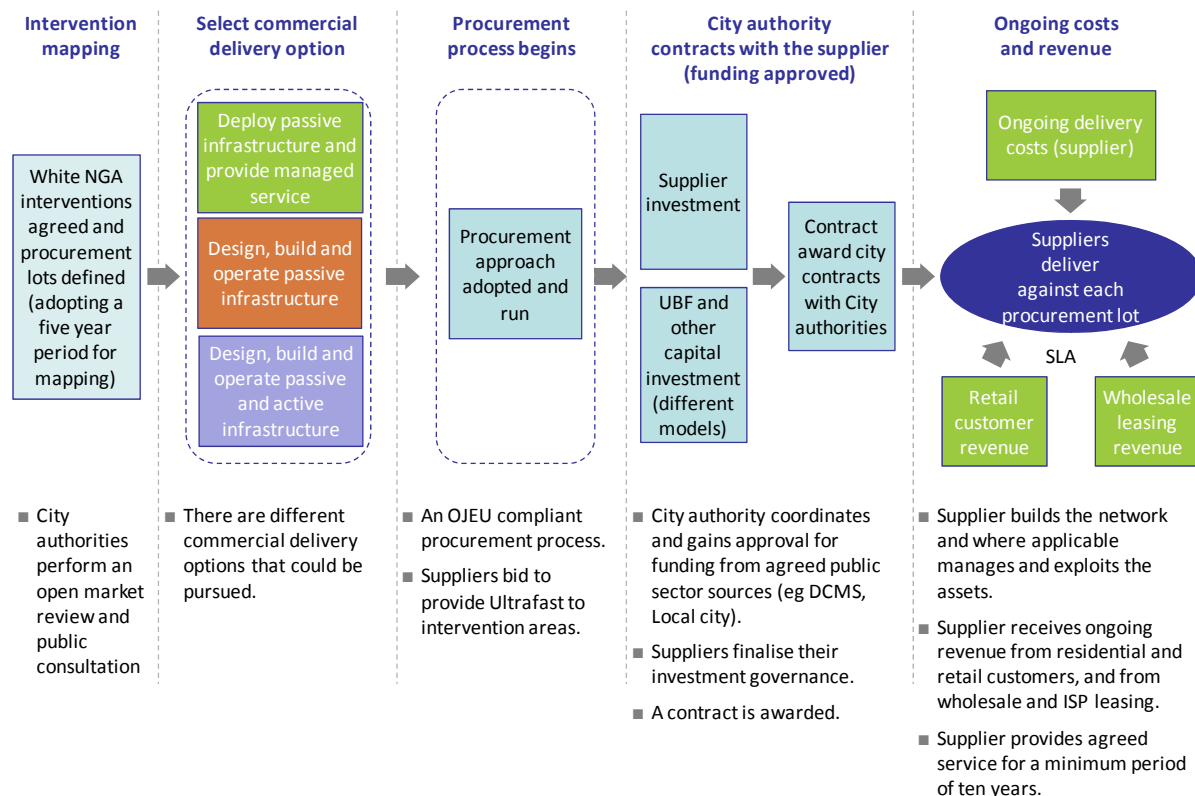


Figure 6.1 An illustrative procurement and contracting process for a broadband infrastructure programme

6.2.2 Considerations in determining which procurement option provides the most appropriate route for the UBF NGA procurement include:

- The time available to complete projects in order to achieve appropriate time to deploy networks, spend funds and achieve policy objectives;
- Managing the integration and overlap with rural broadband procurements;
- The level of activity in the supplier market such that suppliers are able to compete for a broad range of contracts where appropriate; and
- Budgetary constraints which may compete for resourcing to coordinate procurements.

6.3 Procurement option 1: Localised, individual city procurement

- 6.3.1 Each city runs its own individual competition, using a European regulations compliant OJEU process (eg Open, Restricted or Competitive Dialogue tender).
- 6.3.2 Some generic commercial and technical input is provided to the city projects by DCMS to enable consistency with any State aid umbrella decision. DCMS would monitor progress and provide targeted support as required.
- 6.3.3 City-specific requirements and contractual descriptions could be developed with a level of consistency such as being structured around a common template.

6.4 Procurement option 2: Localised, individual city procurements, coordinated by DCMS

- 6.4.1 Each city runs its own individual a competition, using a European regulations compliant OJEU process (eg Open, Restricted or Competitive Dialogue tender).
- 6.4.2 DCMS produces procurement supporting documentation such as detailed guidance on best practice procurement approach, and key documents such as contract templates.
- 6.4.3 DCMS coordinates and manages a pipeline of city projects to ensure procurements are staggered to optimise the ability of suppliers to respond and therefore competition.

6.5 Procurement option 3: DCMS coordinated procurement

- 6.5.1 DCMS is the procurement agent would co-ordinate fair and transparent competition, using a European regulations compliant OJEU process (eg Open, Restricted or Competitive Dialogue tender). The procurement could be structured as one or more lots of cities or within cities (eg specific to a particular area).
- 6.5.2 DCMS produces procurement supporting documentation such as detailed guidance on best practice procurement approach, and key documents such as contract templates.
- 6.5.3 Suppliers compete for lots individually or collectively and can elect to bid for one or more lots.

6.6 Procurement option 4: City led, collaborative procurements

- 6.6.1 Allocated cities act as the procurement agent for others to coordinate competitions of collaborative city projects using a European regulations compliant OJEU process (eg Open, Restricted or Competitive Dialogue tender). The procurement could be structured as one or more lots per city (eg specific to a business park or different intervention areas within a city).
- 6.6.2 Most of the requirements are consistently defined (except for city-specific requirements and relevant intervention arguments).
- 6.6.3 Suppliers compete to be awarded lots within the city projects or the whole city project. Suppliers can elect to bid for one or more lots.

7 Connection Vouchers

- 7.1.1 Voucher schemes supported by DCMS will focus on support for the one-off installation charges (including excess construction charges) for 'Ultrafast' connections (i.e. capable of delivering speeds of at least 100Mbps, both for business and residential customers and capable of speeds up to 1Gbps) where demand exists.
- 7.1.2 The level to which vouchers can be used without the need to notify of State aid is currently in discussion with the European Commission. Whilst vouchers may be used to a certain level such that they do not create market distortions, there is no clear and specific level which can be adopted before a voucher scheme is considered to be providing State aid to an indirect beneficiary. The voucher schemes under consideration would not incorporate revenue funding for on-going broadband or lease line service charges.
- 7.1.3 Voucher schemes rely on the customer who will benefit from the service acting as the procuring agent. Therefore there is no specific need for a competitive process. The vouchers also act as the source of funds and therefore are administered directly as a result of spending the vouchers.
- 7.1.4 Underpinning a voucher scheme there is typically a marketing and demand stimulation activity which targets in-scope premises (ie those in white or grey areas). The marketing and demand stimulation activity aims to raise awareness of the scheme and of what could be achieved if high speed fibre technologies were used within the context of businesses.
- 7.1.5 Many City authorities have experience of administering vouchers / micro payments in relation to grants for various services. Process arrangements established would be subjected to checks to prevent fraud and mismanagement.



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